✓ **Congratulations! You passed!**
TO PASS 70% or higher

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GRADE
100%

Regression Analysis: Hypothesis Testing and Goodness of Fit

LATEST SUBMISSION GRADE
100%

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1. Download the file (Final Exam Scores.xlsx), which provides data for the following variables: Final Exam Score, Attended Review Session, Mid-Term Score, and Homework Score, from a sample size of 40 students.

   1 / 1 point

Final Exam Scores.xlsx

   Please run a multiple regression with 'Final Exam Score' as the dependent variable and the remaining variables as independent variables. Remember, for categorical variable(s), you will need to create dummy or indicator variable(s).

   Which of the following variables is not statistically significant? Assume an alpha level of .05.

   ○ Intercept

   ○ Attended Review Session

   ● Mid-Term Score

   ○ Homework Score

   ✓ **Correct**
   CORRECT

2. If a student received scores of 0 on both the Mid-Term and Homework, and did not attend the Review Session, what would one predict his or her score on the final exam to be? Please round to the nearest whole number.

   1 / 1 point

   52

   ✓ **Correct**
   CORRECT

3. There is a belief among students that if they attend the Review Session, it will increase their Final Exam Scores by 10 points. You need to evaluate this belief by setting up an appropriate hypothesis test.

   1 / 1 point

   First, please calculate the t-statistic for this hypothesis test. Please round to two decimal points.

   -1.77

   ✓ **Correct**
   CORRECT

4. Please calculate the t-cutoff for this hypothesis testing; round the answer to two decimal points. Assume α = .05.

   1 / 1 point

   What is the absolute value of the t-cutoff?

   2.03

   ✓ **Correct**
   CORRECT

5. Based on the t-statistic and the t-cutoff calculated, what is your conclusion regarding the belief held by students?

   1 / 1 point

   ○ The t-statistic falls in the rejection region, therefore we reject the belief.

   ○ The t-statistic falls in the rejection region, therefore we fail to reject the belief.

   ○ The t-statistic does not fall in the rejection region, therefore we reject the belief.

   ● The t-statistic does not fall in the rejection region, therefore we fail to reject the belief.

   ✓ **Correct**
   CORRECT

6. Now, please test the same hypothesis, this time using the appropriate confidence interval. What is the lower limit of the confidence interval, rounded to two decimal places?

   1 / 1 point

   1.15

   ✓ **Correct**
   CORRECT

7. What is the upper limit of the confidence interval, rounded to two decimal places?

   1 / 1 point

   10.61

8. **Utilizing the range of the confidence interval, what is your conclusion regarding the belief held by students?** `1 / 1 point`

   ○ The belief falls outside the range of the confidence interval, therefore we do not reject it.

   ● The belief falls within the range of the confidence interval, therefore we do not reject it.

   ○ The belief falls outside the range of the confidence interval, therefore we reject it.

   ○ The belief falls within the range of the confidence interval, therefore we reject it.

   ✓ Correct
   CORRECT

9. **R-square helps explain goodness of fit, but one can increase the R-square for any regression model just by adding more X variables. Adjusted R-square is an attempt to account for this phenomenon. What is the Adjusted R-square for this regression model, rounded to two decimal places?** `1 / 1 point`

   0.31

   ✓ Correct
   CORRECT

10. **A common misconception is that a low R-square is of no use. When might you NOT want to use a model with a lower R-square?** `1 / 1 point`

    ○ You want to understand the relationship between the dependent and independent variables

    ○ You want to see the effects of changes in one variable on another

    ● You need to make an accurate prediction

    ✓ Correct
    CORRECT; to make an accurate prediction, you will want to utilize a model with a higher R square.